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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,314	04/13/2004	Neo Chee Peng	303.772US2	4743

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SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

HEINRICH, SAMUEL M

ART UNIT	PAPER NUMBER
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3742

MAIL DATE	DELIVERY MODE
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02/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/823,314	Applicant(s) PENG ET AL.	
	Examiner Samuel M. Heinrich	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-53 is/are pending in the application.
4a) Of the above claim(s) 28-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 8-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/118,666.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Claims 28-53 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 28, 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,552,345 to Schrantz et al in view of US20020046997A1 to Nam et al in view of USPN 6,214,703 to Chen et al.

Schrantz et al describes (column 2, lines 16-21) “using a traditional diamond wafering saw that follows the scribe line pattern formed by the laser ablation”. Schrantz et al describe a YAG laser.

Nam et al describe [0059] a scribing laser beam 130 is irradiated along the cutting route, and “cooling gas, cooling water, or a mixture thereof is applied along the scribing laser beam”, and describe [0061] “While the scribing laser beam 130 and the cooling fluid beam 170 are being moved along the cutting route 200, the cutting laser beam 150 is irradiated”.

Chen et al describe (column 5, lines 31-50) scribing trenches between 5 and 100 microns.

The use of coolant on a scribe having a depth of at least 25 microns would have been obvious at the time applicant’s invention was made to a person having ordinary skill in the art in order to prevent heat damage to the workpiece. Subsequently, using a mechanical cutter to completely cut through the workpiece would have been obvious at the time applicant’s invention was made to a person having ordinary skill in the art in order to complete die separation.

Claims 9, 15, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,552,345 to Schrantz et al in view of US20020046997A1 to Nam et al in view of USPN 6,214,703 to Chen et al as applied to claims 8, 9, 14, and 24 above, and further in view of USPN 6,257,224 to Yoshino et al.

Yoshino et al describe (e.g., column 7, lines 5-12) known processing parameters of laser pulse width of 2 kHz and power of 300 W. The instant claimed parameters

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would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art depending on type of laser, type of workpiece, and desired machining parameters such as speed and depth.

Claims 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,552,345 to Schrantz et al in view of US20020046997A1 to Nam et al in view of USPN 6,214,703 to Chen et al as applied to claims 10 and 16 above, and further in view of USPN 4,311,722 to Brehm et al.

Brehm et al describe a nickel-diamond cutter and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill because it is described as being used with semiconductor or oxidic material.

Claims 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,552,345 to Schrantz et al in view of US20020046997A1 to Nam et al in view of USPN 6,214,703 to Chen et al as applied to claims 16 and 24 above, and further in view of USPN 6,291,317 to Salatino et al.

Salatino et al describe a moving speed of 100 mm/sec and the instant claimed moving speed of 120 mm/sec would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art depending on the particular material and cutting parameters.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,552,345 to Schrantz et al in view of US20020046997A1 to Nam et al in view of USPN 6,214,703 to Chen et al in view of USPN 6,291,317 to Salatino et al as applied to claim 17 above, and further in view of USPN 6,257,224 to Yoshino et al.

Yoshino et al describe (e.g., column 7, lines 5-12) known processing parameters of laser pulse width of 2 kHz and power of 300 W. The instant claimed parameters would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art depending on type of laser, type of workpiece, and desired machining parameters such as speed and depth.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gilchrist et al, Yoo et al, Neev, Choo et al, JP360127743A, and JP362224515A pertain to cooling.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel M Heinrich/
Primary Examiner, Art Unit 3742